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# Bulletin of The University of Minnesota

DEPARTMENT OF AGRICULTURE

WEST CENTRAL  
SCHOOL AND STATION  
MORRIS, MINNESOTA

1915-1916

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# THE WEST CENTRAL SCHOOL AND STATION

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# SCHOOL CALENDAR

1915-16

October	4	Monday	First term opens: Registration
October	5	Tuesday	Organization of classes
November	6	Saturday	Field Day
November	25	Thursday	Thanksgiving Day
December	13	Monday	Inter-society Debate
December	18	Saturday	Christmas Party
December	22	Wednesday	First term closes
December	23	Thursday	Departure for Christmas vacation
January	3	Monday	Second term opens: Registration
January	4	Tuesday	Organization of classes
February	12	Saturday	Lincoln's Birthday
February	22	Tuesday	Washington's Birthday
March	15	Wednesday	Morris-Crookston Debate (Subject to change)
March	18	Saturday	Spring Party
March	22	Wednesday	Class Play
March	24	Friday	Commencement Day

## GENERAL INFORMATION

### PURPOSE

The West Central School of Agriculture is an institution established primarily for the training of young men and women for the profession of farming. The courses are planned and the subjects are taught with the purpose of making the students masters of this work. The courses are sufficiently extended to give, not only a fairly complete technical equipment in the business of production, but a working basis in the economic and sociological aspects of farm life. It is felt that the farmer of the future must have a broad grasp of his profession in its relationships with other callings, as well as a realization of the possibilities of its social development.

### ADMISSION

At present the rural schools are unable to do much advanced work. It is hoped that they will improve their courses through consolidation and association and ultimately make it possible for the School of Agriculture to set higher standards of admission, but, until such is the case, the School must accept any mature young man or woman even tho he or she might find it hard to pass entrance tests. Students above sixteen years of age will be welcomed even tho they may not be able to show graduation from the usual eighth-grade work. Whenever possible, prospective students should present county or high school certificates in the common branches. These will admit to the regular work without conditions.

### LOCATION

The School is admirably situated to serve about seventeen counties of the west central part of the State. The Great Northern Railway through connections with the Chicago, Milwaukee, and St. Paul Railway gives good service to the southeast, southwest, west, and northwest. The Northern Pacific Railway, through connections with the Soo Line and other roads, gives very satisfactory service to the portion of the State lying north and northeast of Morris.

The School itself adjoins the city of Morris and is situated upon a natural rise of ground overlooking the Pomme de Terre Valley. When the present plans are carried into effect, the campus will be a very beautiful place indeed with its fifteen or twenty buildings and pleasant drives.

### TIME OF OPENING

The School of Agriculture will open Monday, October 4, and close Wednesday, December 22, for the fall term. It will reopen Monday, January 3, and close Friday, March 24 for the winter term. This gives

six months of school work at a time when the students can best be spared from home.

#### SPECIAL INFORMATION

Old or new students planning to attend the School of Agriculture should write early to the Registrar asking him to reserve a room. An advance deposit of \$2.00 per person is required to reserve a room. No deposit for room will be returned after September 1. This deposit will be applied on first month's fees. Each dormitory room is furnished with two single beds, dresser, table, chairs, curtains, sheets, bed spreads, pillows and pillow cases. Each student should bring with him quilts or blankets for one single bed, towels, comb, brushes, and other toilet articles.

Preferences as to roommates should be stated early and will be considered so far as possible.

Students more than two weeks late in entering may not be able to complete all of the term's work without conditions. If a student can not enter before the middle of November, he should wait until January 3 for the new term and new classes to start.

All trains will be met by special committees Monday, October 4. If possible, be on hand the first day.

#### HOLIDAYS

Lincoln's and Washington's birthdays are legal holidays, and will be appropriately observed. On Thanksgiving Day no classes will be held, but school will continue as usual on the Friday and Saturday following.

#### DORMITORIES

Two new dormitories, one for young men and one for young women, are now in use. Each is in charge of one of the members of the Faculty. These buildings are modern, three-story structures, splendidly equipped and heated by a central heating plant. They will accommodate about one hundred and fifty students.

#### HOME LIFE ON THE CAMPUS

The life of the students while attending the School of Agriculture is subject to supervision. Everything is done to promote a healthful, moral atmosphere. The use of tobacco and spirituous liquors of all kinds is strictly forbidden. Anyone not in accord with these restrictions and not willing to lend a hand toward strong, moral growth should not come to the School of Agriculture.

#### EXPENSES

The expenses at the institution are made as moderate as feasible. They include the following items which are payable in advance:

Incidental fee (per year).....	\$5.00
Board (per week).....	2.50
Room, light, heat and flat laundry (per month).....	5.00

Laboratory fees for woodwork, forge, sewing, cooking, chemistry, corn studies, or dairying (per term)....	\$1.00 to 3.00
Purchase of textbooks (per term).....	3.00 to 5.00
Deposit (per year).....	5.00
Hospital fee (per term).....	1.00

The five-dollar deposit is required as a protection against breakage, etc., and unless deductions are made it will be returned in full at the end of the year. The buildings are lighted by electric lights and warmed by steam. No deduction in board is made for any absence of less than seven days. No deduction in room is made while the room is held. A charge of twenty-five cents per meal will be made for guests. Guests' meal tickets should be purchased in advance. The price of board is put at \$2.50 per week. This rate may be varied if advisable.

Students will buy their own stationery, drawing material, etc.

The policy of renting books has been found to be unsatisfactory, so it has been decided to require each person to purchase his own texts. A bookstore will be organized and many of the books can be had at second-hand rates and resold to other students at the end of the term if the student so desires.

#### STUDENT ORGANIZATIONS

Students are urged to unite with a literary society. These societies offer the students pleasure as well as profit. They afford a training in conducting meetings, parliamentary law, and public speaking obtainable in no other way.

The following societies hold regular weekly meetings during the school year: The Vincent Literary Society, the Agricolae Literary Society, the Ceres Club.

An Intersociety Debate cup for the promotion of interest in civic and political questions has been offered by the superintendent. This will become the property of the society winning it three successive years. The Vincent Literary Society now holds the cup, having won it the second successive time in the spring of 1915.

Attendance at gymnasium classes is required of all students. Both the young men and young women have basket-ball teams.

Both the Young Men's and the Young Women's Christian Associations have organizations. Sunday morning and Sunday evening services are conducted each week under the direction of these two associations.

Boys' and Girls' Glee Clubs are regularly organized and trained throughout the school year. These clubs appear separately or together at various school functions.

#### LIBRARY

The library is well equipped to supply the needs of the students. A large number of books have been selected to meet the requirements of the various departments. These, with the government and station reports, are all classified and available for use by instructors and students.

The Librarian is always ready to give whatever assistance she can in



directing students in the selection of the books they may need in the pursuit of their work.

#### LECTURE COURSE

During the school year a lecture and entertainment course, consisting of four or five members, is given at a cost of one dollar for the series. These entertainments are strictly high grade and furnish a pleasant relaxation from regular school work.

#### DEPARTMENT OF MUSIC

For those who are interested credit courses in piano instruction are offered. Ten half-hour and ten group lessons per term are given with special time for practice. Fees of ten dollars per term for the lessons and two dollars and a half per term for piano rental are charged. Special rooms are set aside for practice, making it possible to do good, thorough work. A class in musical theory meets once a week, and instruction is also given in the history of music, ear training, and the rudiments of harmony.

#### TEACHERS' TRAINING SCHOOL

The fourth annual session for rural school teachers will open June 14 and continue six weeks. The technical work will be offered by members of the regular faculty and the usual summer school courses will be in charge of a corps of ten instructors furnished by the Department of Education. The proper completion of any course will command certificate credit without the usual examinations.

#### SUMMER DRESSMAKERS' COURSE

A course in commercial dressmaking is offered in the Summer Session. Instruction is given in plain sewing, dress trimming, tailoring, and the study of standard dress materials and their manufacture. The aim of the course is to teach dressmaking as a trade.

#### SUMMER HOMEMAKERS' COURSE

The purpose of the Home Makers' Course is to afford a chance for those who desire it to obtain training in organizing and running a home. Everything offered is given with an idea of making a person an efficient home maker. This course is offered during the Summer Session.

#### A SHORT VACATION FOR FARM WOMEN

The second annual short vacation for farm women will be held during the Chautauqua week, making it possible for the ladies enrolled to have the opportunity of attending the splendid lectures and entertainments offered during the Chautauqua season. Beside this, there will be the usual talks and periods of visiting. The training school will also be in session and faculty members will help make the time pleasant and profitable. The fee for the course will be \$4.00. This will pay for the board and all other local expense, including the Chautauqua tickets. This course is offered June 29 to July 2, 1915.



## REQUIREMENTS FOR GRADUATION

(1) The completion of the prescribed course of study with an honorable standing in deportment. It is essential that the student should do some work of a practical nature during the vacations following the first and second school years respectively. Students will be given credit for this work just the same as for other school work. Blanks giving an outline of the work in detail and blanks for certification are furnished to all students.

(2) It is required that all the boys in the school devote their vacations to actual work or to some form of agricultural work.

The girls may choose their summer work in one of several lines that is mapped out for them.

## THE ADVANCED COURSE

In addition to the regular three-year course a fourth year is being offered. All students who can should plan to take the full four years, as the work given in the added year will be of great value in completing the minimum training that farm young men and women should receive. Half of the time will be devoted to some one special line of work, such as Animal or Dairy Husbandry, Agricultural Engineering, Farm or Home Management, Horticulture, Music, or Home Nursing. Graduation from the three-year course will continue for the present.

## EXPERIMENT STATION

The plans for the Experiment Station work are as yet in the making. Lack of funds and local conditions have prevented much, if any, constructive work. The main activity so far has been in the line of preparation for the future. Elimination of weeds, building up of soil fertility, fencing, reconstruction of buildings, etc., have demanded most of the attention up to the present time.

## AGRONOMY DIVISION

Three hundred acres of land are laid out for experimental and demonstration purposes. At present four main lines are followed.

1. *Crop Rotation and Farm Management.*—One hundred acres are divided into a five-year rotation with a dairy herd in connection. This is to demonstrate what seems to be the ideal for the newer agriculture, namely, smaller farms intensively handled with live stock to help maintain soil fertility.

2. *Nitrogen-Gathering Crops.*—Clovers, alfalfas, and other leguminous crops are receiving attention in order to restore the nitrogen content of the soil, to improve the physical texture of the land, and to give a source of excellent stock food.

3. *Corn Improvement.*—Variety test work with corn has been started for the purpose of adapting varieties and securing a higher yield and earlier maturity.

4. *Alfalfa.*—Several varieties and strains of alfalfa are on test at the present time and these will be increased as rapidly as possible. Because

of the growing importance of this crop in western Minnesota, the variety test work will receive much attention. Cultural data are being gathered throughout the section with a view towards ascertaining the most successful methods of growing and handling the crop.

#### ANIMAL AND DAIRY HUSBANDRY DIVISION

The Animal Husbandry Division is conducting demonstrations in feeding hogs and beef cattle. Pure-bred herds of hogs and poultry are being established with the threefold object of providing teaching illustrations for the students, demonstrations for the community, and sources of supply for pure-bred stock upon the farms.

The Dairy work so far has consisted entirely in building up a common herd. In 1910 twelve common cows were purchased. These were given balanced rations and put under yearly tests for butter-fat production. At the same time a registered dairy sire was placed over the herd. The herd now consists of three of the original herd, seven half-blood, and three three quarters heifers and calves that will take their place in the herd at the proper time. The original sire has been replaced by another animal having a considerably better record behind him.

Registered cows of beef and dairy breeds are being purchased and will be available for use in instruction work the coming winter.

# COURSES OF STUDY REQUIRED FOR GRADUATION BOYS

## FIRST YEAR

<i>First Term</i>			<i>Second Term</i>		
	Class period (40 Min)	Labo- ratory period (80 Min)		Class period (40 Min)	Labo- ratory period (80 Min)
English (A)	5	..	English (B)	5	..
Corn (A)	3	2	Grain (B)	3	2
Farm Acct (J)	5	..	Physiology (B)	5	..
Feeds & Feeding (A)	5	..	Indus Geog (A)	5	..
Forge (C)	..	3	Forge (D)	..	3
Woodwork (A)	..	3	Woodwork (B)	..	3
Milk Test Work (J)	..	1	Milk Test Work (K)	..	1

## SECOND YEAR

English (C)	5	..	English (D)	5	..
Types & Breeds (B)	5	..	Farm Forestry (H)	5	..
Industrial History (B)	5	..	Farm Structures (G)	5	..
Garden & Orchard (I)	5	..	Physics (F)	5	..
Drainage (E)	3	2	Chemistry of Milk (L)	..	1
Grain Judging (C)	..	2	Forage Crops (D)	..	2
Stock Judging (C)	..	1	Stock Judging (D)	..	1

## THIRD YEAR

English (E)	5	..	English (F)	5	..
Farm Management (F)	5	..	Farm Management (G)	5	..
Principles of Breeding (E)	5	..	Soils (E)	3	..
or			Algebra	5	..
Algebra	5	..	Farm Mechanics (H)	3	2
Dairy Practice (M)	1	2	Stock Judging (G)	..	1
Stock Judging (F)	..	1	Dairy Barn Work (N)	..	4
Chemistry (A)	3	2			
Government (C)	5	..			

## FOURTH YEAR

Literature (G)	5	..	Literature (G)	5	..
Farm Acct (J)	5	..	Farm Management	5	..
or			or		
Geometry	5	..	Geometry	5	..
Economics (D)	5	..	Sociology (E)	5	..
or			or History	..	..
History	5	..	Legal Forms and Or- ganization (F)	5	..
Veterinary Practice (H)	5	..			

Electives for Fourth Year:

Agricultural Engineering (I)  
Agricultural Engineering (J)  
Animal Husbandry (I)  
Dairy Husbandry  
Horticulture

## GIRLS

## FIRST YEAR

<i>First Term</i>			<i>Second Term</i>		
	Class period (40 Min)	Labo- ratory period (80 Min)		Class period (40 Min)	Labo- ratory period (80 Min)
English (A)	5	..	English (B)	5	..
Nature Study (C)	5	..	Sanitation (I)	5	..
or			Physiology (B)	5	..
Music (A)	1	3	Indus. Geography (A)	5	..
Home Accounts (D)	5	..	or		
Laundry (G)	1	2	Music (B)	1	3
Sewing (A)	..	3	Sewing (B)	..	3
Cooking (A)	2	1	Cooking (B)	2	1

## SECOND YEAR

English (C)	5	..	English (D)	5	..
House Pl. & Dec. (E)	5	..	Home Nursing (F)	5	..
Indus. History (B)	5	..	Bacteriology (G)	3	1
Garden & Orchard (I)	5	..	Household Physics (H)	5	..
or			or		
Music (C)	1	3	Music (D)	1	3
Sewing (C)	..	3	Sewing (D)	..	3
Cooking (C)	1	1	Cooking (D)	1	1

## THIRD YEAR

English (E)	5	..	English (F)	5	..
Chemistry (E)	3	2	Food Chemistry (F)	3	2
Government (C)	5	..	Poultry & Dairy	..	..
or			or		
Music (E)	1	3	Music (F)	1	3
Textiles (H)	5	..	Home Management (J)	3	1
or			or		
Algebra	5	..	Algebra	5	..
Sewing (E)	..	3	Sewing (F)		3
Cooking (E)	1	1			

## FOURTH YEAR

Literature (G)	5	..	Literature (G)	5	..
Economics (D)	5	..	Sociology (E)	5	..
or			or		
History	5	..	History	5	..
Art Studies	..	..	Legal Forms and Or-		
or			ganization (F)	5	..
Child Development	..	..	or		
			Nursery Literature	..	..

Electives for Fourth Year:

Music (G)  
 Music (H)  
 Dressmaking  
 Home Nursing  
 Home Management

## DESCRIPTION OF COURSES

### AGRICULTURAL ENGINEERING

- Course A. WOODWORK. This course deals primarily with the use, care, and adjustment of the tools which every man should have on the farm. Practice is given in bench work, in the oiling and staining of woods, etc. BYE.
- Course B. WOODWORK. This course is a continuation of Course A. Special attention is given to the finer problems of finishing and joining and to the selection and cutting of rafters. BYE.
- Course C. FORGE WORK. This course includes the working with iron and steel, practice in forging, welding, and tempering. The student becomes familiar with the use of tools, processes of drawing, up-setting, and methods of making hooks, staples, chains, clevises, etc.
- Course D. FORGE WORK. This course is a continuation of Course C. Special attention is given to the working of steel, and the methods of forging and tempering. Instruction is also given in the forging of tools, sharpening, polishing, etc., as well as in general repair work.
- Course E. DRAINAGE. An elementary course in farm drainage, taking up the best methods of leveling, ditching, locating, and the laying of tile, etc. Special stress is placed upon the cost and methods of estimating. Part of the time is devoted to the more simple problems of farm surveying; running of lines, areas, staking-out of buildings, etc. WOODMAN.
- Course F. PHYSICS. The work as taken up gives the student a simple and practical course in physics. It includes the mechanics of solids, fluids, heat, and sound; also a few assignments from the subjects of light and electricity. WOODMAN.
- Course G. FARM STRUCTURES. This course takes up the design, location and erection of farm buildings, proper methods of lighting and ventilating, study of proper pitches, roof trusses, barn frames, estimates of cost, etc. Emphasis is placed upon the need for better farm buildings, the methods of planning them with a view to convenience and comfort, and the necessity of adapting them to their surroundings. BYE.
- Course H. FARM MECHANICS. This course includes the study of farm machinery and farm motors. Instruction is given in the selection, use, and care of all lines of agricultural implements, including tillage, seeding, harvesting, threshing, and fertilizing machinery. Work is given in pumping and grinding machinery, transmissions of power, grading machinery, etc., in gas and oil engines, their operation, use,

and care. In the laboratory the student is required to become familiar with the construction and operation of the more common machines. WOODMAN.

Course I. GAS ENGINES. This course is elective for the fourth year. It consists of an elementary course in gas engines. It treats of the gas and oil engines for stationary and vehicle use, their construction, design, management, care, operation, repair, and installation. The course is designed to fit the need of the owner or operator of an engine, one who is not a mechanic or an engineer. WOODMAN.

Course J. LIGHTING AND SANITATION OF FARM BUILDINGS. This course is also elective for the fourth year. It includes a study of lighting materials, lighting systems, sewerage, sewage disposal, etc. Attention is given to the design, method of installation, and cost of the different systems. Stress is placed upon the necessity of having modern lighting and modern plumbing in the farm home. WOODMAN.

### AGRONOMY AND FARM MANAGEMENT

Course A. CORN GROWING. This course consists of a complete study of the corn plant and its relationship to the agriculture of western Minnesota. The work includes a botanical study of the corn plant; its relation to soil and climate; the selection and testing of seed corn; soil preparation and care of the crop; harvesting; diseases and insects; silage and fodder; varieties, corn judging, and corn breeding. All class and lecture work is supplemented as far as possible with laboratory practice. MILLER.

Course B. GRAIN GROWING. This course consists of a study of the principal small grain crops. Seed selection and preparation; soil and cultural requirements; harvesting; marketing; insects and diseases and other related subjects are given due consideration both in the classroom and laboratories. MILLER.

Course C. CORN AND GRAIN JUDGING. This is an advanced course following Courses A and B. Score-card practice, commercial grading, and judging work are given with a view towards making the student proficient in the judging of corn and grain. The aim of this work is to fit the students for the intelligent production of pure-bred seeds upon the farm. MILLER.

Course D. FORAGE CROPS. In this course clover, alfalfa, and the other leguminous crops, the grass crops including timothy and the other native and tame pasture and hay grasses, millet, rape, and the other forage crops are studied. The course deals largely with a study of their cultural requirements and their importance in the general farm management scheme. MILLER.

Course E. SOILS. This course is applied to the needs of western Minnesota. Soil formation, soil types, soil physics, soil chemistry, soil tillage, and the use of fertilizers are given chief attention. MILLER.



Course F. FARM MANAGEMENT. This subject deals with types of farming, cropping systems, cost of producing farm products, farm labor, marketing of farm products, and the general business management of the farm. The students are required to draw plans of their home farms, to change the plan into one adapted to rotation systems and to make supplemental plans which illustrate distinct features in farm management. The second term's work consists in a complete study of farm accounts. The student keeps books on an entire year's work from taking the inventory to closing the accounts at the end of the year. MILLER.

Course G. ADVANCED STUDIES IN FARM MANAGEMENT. This course will consist of advanced work in some of the more important problems of farm management, including farm labor, cost of production, marketing, and similar subjects. MILLER.

Course H. FARM FORESTRY. This includes a study of the general principles underlying the growing of trees; the study of the details of laying out, planting, and caring for windbreaks and farm woodlots; demonstrations of practical methods for the preservative treatment of timbers and fence posts; discussions and illustrations of the general principles underlying ornamental planting around the farmstead.

Course I. GARDEN AND ORCHARD. This course is a brief general course for those interested in making the garden and orchard a success on the home farm; plans for garden layouts with a consideration of kinds and amounts of vegetables to plant, with their cultural requirements; the value of an orchard; kinds of fruits to attempt, including their cultural needs.

Course J. FARM ACCOUNTS. This course introduces the regular ledger account form. Cash accounts, accounts with neighbors and townsmen, together with forms for use in determining value of various farm operations, are taught. Much drill is given in making accurate computation in the various types of examples that might arise in farm management. VAN WINKLE.

## ANIMAL AND DAIRY HUSBANDRY

Course A. FEEDS AND FEEDING. This course is devoted to the study of the general composition of the animal body. Composition and digestibility of foods; feeding standards; methods of feeding all classes of animals; influence of foods on animal form and quality of animal products. JORDAN.

Course B. TYPES AND BREEDS. This course is devoted to the study of the history and development of the several breeds of horses, cattle, sheep, and swine; characteristics and adaptability of improved breeds. Accompanied by Course C. JORDAN.



Course C. STOCK JUDGING. This course is devoted to the study and practice of the score card, showing the relation of body structure to economical production. JORDAN.

Course D. STOCK JUDGING. This course is devoted to comparative and competitive judging of all classes of live stock. Must be preceded by Course C. JORDAN.

Course E. PRINCIPLES OF BREEDING. This course is devoted to a study of the theory and practice of animal breeding; variation; heredity; selection; effect of pure-bred animals in improving types of stock; pedigrees. JORDAN.

Course F. STOCK JUDGING. Continuation of Course D. JORDAN.

Course G. STOCK JUDGING. Continuation of Course F. JORDAN.

Course H. VETERINARY PRACTICE. This course is devoted to the study of the causes and prevention of animal diseases; emergency treatment. JORDAN.

Course I. ADVANCED ANIMAL HUSBANDRY. This course is devoted to the study of feeding and breeding experiments of other stations. JORDAN.

Course J. MILK TEST WORK. Principles of milk testing. Each student tests and keeps a record of a herd of dairy cows. JORDAN.

Course K. Continuation of Course J. JORDAN.

Course L. CHEMISTRY OF MILK. This course includes milk and cream testing, acidity testing, sediment testing, moisture testing, bacteriology of milk, and the chemical changes occurring in milk. JORDAN.

Course M. DAIRY PRACTICE. This course consists of home butter-making, home cheese-making, home ice-cream-making, and the proper methods of handling dairy products. JORDAN.

Course N. DAIRY BARN WORK. Each student will be required to feed, milk, and care for a group of cows for six weeks or a half semester. At the same time a feeding demonstration will be conducted so that each student will be able to make observations. JORDAN.

Course O. POULTRY AND DAIRY. This course is designed for girls in the Senior Year and includes the subjects of housing problems, incubating, brooding, feeding, and winter egg production; also milk and cream testing, butter-making, proper care of dairy products and the principal characteristics of the dairy breeds of cattle. JORDAN.

#### DOMESTIC ART

Course A. SEWING. This term's work in sewing includes the making of a cooking outfit, gymnasium suit, kimono, fancy apron, and sheets and pillow cases. WILDER.

Course B. SEWING. A four-piece suit of underwear is made in this semester. The kinds of material suitable for underwear, their wearing and laundering qualities, the trimmings, and the cost of the completed suit are discussed. WILDER.

Course C. SEWING. A shirt waist and a wool dress are required for this term's work. The proper style, line, and material for these garments are brought out in class discussions. WILDER.

Course D. SEWING. The work of this semester has to do with the making of summer dresses. Cotton cloth of plain design and durable material is used almost entirely. WILDER.

Course E. SEWING. In the senior year the girls learn how to cut and fit a coat or suit. The standard colors, line, and material for outside garments are worked out. WILDER.

Course F. SEWING. An inexpensive graduation dress is made in the last semester. WILDER.

Course G. LAUNDRY. The student is shown the best way to prepare water, soap, and starch for laundering purposes; how to iron and fold a garment, to revive colors, remove stains, and wash delicate fabrics. Some time is given to the study of the different dry-cleaning processes. WILDER.

Course H. TEXTILES. Under textiles is included the study of the different kinds of cloth manufactured from wool, cotton, silk, and flax fibre, together with their adulterations and substitutions. The comparative value of standard materials according to the purpose for which they are to be used is discussed and illustrated with samples of cloth. Harmony in color and design in garment-making is also emphasized. WILDER.

## DOMESTIC SCIENCE

Course A. COOKING. The laboratory work consists of practice in cooking fruits, vegetables, soups, and cereals and in the making of muffins, pancakes, baking-powder biscuits, etc. The lecture work deals with the digestibility of foods, the source of our food products, and the theory of cooking. POTTER.

Course B. COOKING. The laboratory work includes the cooking of meats and eggs, and the making of bread, pies, cakes, and simple desserts. The lecture work is a continuation of the first semester. POTTER.

Course C. COOKING. The laboratory work is largely canning and preserving and a continuation of general cooking. In the second semester a portion of the time is given to invalid cookery. The lecture work is a continuation of that of the first year's work. POTTER.

Course D. COOKING. The work of this year includes a study of foods and the planning of meals for people under varying conditions of age, health, and occupation. The planning and preparation of balanced meals, school lunches, etc., will receive attention during laboratory hours. POTTER.

Course E. FOOD CHEMISTRY. This course gives an introduction to simple chemistry in its application to every-day life. POTTER.

Course F. FOOD CHEMISTRY. This course continues the work of the previous semester, applying the general principles of chemistry to food in all of its uses. POTTER.

### ENGLISH

Course A. ENGLISH. This course consists of the principles of grammar, spelling, and reading. Considerable time is devoted to letter-writing and simple composition, correlating the work with other departments. VAN WINKLE.

Course B. ENGLISH. Continuation of Course A. VAN WINKLE.

Course C. ENGLISH. In the junior year the work is continued in spelling and reading, the text for the latter being one of the standard stories. To inspire self-confidence and to encourage self-expression some time is given to elementary public speaking. Written work takes the form of short themes and letters.

Course D. ENGLISH. Continuation of Course C.

Course E. ENGLISH. Advanced work is given in this course in written composition, illustrating the principles of narration, description and exposition. In addition, word study takes up the derivation, usage and meaning of words. Two standard books are read outside of class each semester. Written or oral reports are required.

Course F. ENGLISH. Continuation of Course E.

Course G. LITERATURE. This is a six-months course for fourth-year students. It includes a survey of English literature and a study of the important literary productions, leading to an appreciation of good literature. Two standard books are read outside of class each semester. Written or oral reports of these are required.\*

\* Juniors and Seniors are required to speak before the assembled school several times a year. The purpose of this work is to prepare the students to address farm clubs and other public gatherings.

## MUSIC

## PIANO MUSIC

Course A. PIANO PLAYING. Exercises for hand position and control; two- and three-finger exercises; five-finger exercises; scale formation exercises. Studies: Gurlitt, *Technic and Melody*, or Tapper, *First Piano Book* or *Graded Studies*, Grade 1. Solos: Pieces from Gurlitt, Sartorio and others. JOHNSON.

Course B. PIANO PLAYING. Thumb exercises, major and minor scales, one and two notes, 80 mm.; five-finger exercises and transposition of same, two- and three-finger exercises in C. Studies: Streabbog's *Twelve Very Easy Studies*, Czerny *Anthology*, vol. I. Solos: Graded pieces, Grade II. JOHNSON.

Course C. PIANO PLAYING. Scales with different touches, one and two notes, 80 mm.; Herz exercises; broken chords. Studies: Concone *Twenty-four Melodious Studies*, or Streabbog, vol. II; Czerny, *Anthology*, vol. II. Solos: Beethoven *Minuet in G*, Heller, *Petite Tarantelle in E Minor*, etc. JOHNSON.

Course D. PIANO PLAYING. Scales with different touches, 1, 2, 3, and 4 notes, 80 mm. Herz exercises; broken chords; block chords with pressure and drop arm; simple arpeggio. Studies: Foote, *First Year Bach*; Czerny; Williams, *Wrist and Forearm Studies*. Solos: Graded pieces, Grade III; at least two selected sonatinas. JOHNSON.

Course E. PIANO PLAYING. Exercises for muscular independence, suppleness, rhythm, precision, and free use of fingers, hands and arms; further study of control of the various qualities of touch; arm and wrist exercises on double notes and common chords. Studies: Lynnes, *Key Circle Exercises*, Book I; Bertini, *Opus 100*, or Heller, *Opus 47*; Bach, *Little Preludes*, or *First Year Bach*. Solos: Easy sonatas by Haydn and Mozart. Graded pieces, Grades III and IV. Tapper, *Graded Pieces*, Grade III. Classes in Musical History and Music Theory. MEYER.

Course F. PIANO PLAYING. Review of technical principles thus far studied. The control of accent. Schmitt finger exercises; the major and minor scales, hands separate, legato and staccato in varied rhythms. Studies: Doring, *Octave Studies*. Solos: Pieces by Schumann, Mendelssohn, Jensen, Scharwenka, and others. Easier Beethoven works. Classes in Musical History and Music Theory. MEYER. For the completion of the above outlined course a certificate of graduation with the honor of Proficiency in Music will be conferred.

TEACHERS' COURSE. A postgraduate course for teachers of music in rural communities.\* Exercises in all keys for development of velocity and

\*Any student desiring to undertake the fourth year work in music with a view to satisfactorily completing this work and qualifying as a certified teacher of music must have completed the courses A to F previous to entering upon the postgraduate course. A degree of advancement equivalent to that required for graduation from the regular music course will be accepted for entrance upon the Teachers' Course.

equality of touch; embellishments, trill exercises; thoro drill in demonstration of correct principles of technic; various qualities of staccato and legato touch, portamento; major and minor scales, hands together in octaves, tenths, sixths, thirds and contrary motion; chord exercises common and seventh chords, arpeggios of the same, in varied rhythms.

Studies: Isidor Phillip, *Complete School of Technic*; Heller, *Opus 45*; Smith, *Octave Studies*; selected Cramer studies. Solos: Bach, *Two Part Inventions*; Mendelssohn, *Songs Without Words*; Schumann, *Scenes from Childhood*. Pieces by Chaminade, Godard, Raff, MacDowell, and others.\* MEYER.

#### VIOLIN MUSIC

The violin instruction will comprise a thoro teaching of the correct principles of violin playing. Solo playing will be encouraged and a class in orchestra playing will be a part of the regular study of violin pupils.

Registration for violin lessons will be regulated by the rules governing all musical instruction given at the school. Candidates for either a certificate of graduation or a teacher's certificate must fulfill an equivalent of the requirements laid down for piano pupils. SORFLATEN.

#### BAND INSTRUMENTS

Instruction in the various instruments such as cornet, clarinet, trombone, etc., will be given. SORFLATEN.

\*At least three hours a day for the two terms (6 months) will be required for the satisfactory completion of this course.

#### SOCIAL SCIENCE

Course A. INDUSTRIAL GEOGRAPHY. This course is designed to show the relationship of farm work to other occupations, the relationship of the farm to the rest of the world. Wheat, butter, and beef are taken as important farm products and studied in their progress from producer to consumer. Competitive agricultural regions and market demands and their effect upon local conditions are considered. SCHWEICKHARD.

Course B. INDUSTRIAL HISTORY. This course is planned to show the place of present-day agriculture in industry and history. A view of the past shows how far civilization has advanced and gives a basis for future hopes in agricultural improvement. Primitive agriculture, followed by a partial view of European and English progress, leads to a closer study of American agriculture from colonial times to the present. SCHWEICKHARD.

Course C. GOVERNMENT. This course begins with the study of the rural school district. From this simple introduction the students are led successively through township, county, state, and national govern-



ments. The course is completed by a consideration of a few modern political institutions, such as primaries, initiative, referendum, etc. SCHWEICKHARD.

Course D. ECONOMICS. This course is a study of production, transportation, and consumption from the agricultural standpoint. It aims to give the student an idea of the place of farming in industry. Prerequisites: Courses A and B. HIGBIE.

Course E. SOCIOLOGY. This course is a study of rural life including its relationships with other social classes. The churches, schools, clubs, and home life are considered. Lines of community coöperation and betterment are considered. Prerequisites: Courses A, B, and D. HIGBIE.

Course F. LEGAL FORMS AND ORGANIZATION. This course includes a study of contracts and the various legal papers that a farmer may have occasion to use. It also covers work in organization of clubs, associations, etc., together with practice in conducting such gatherings as farmers participate in. HIGBIE.

### GENERAL

Course A. CHEMISTRY. This course includes a general survey of chemistry. It deals with the study of the common elements, simple chemical action, and the laws of chemistry applicable to farm life. POTTER.

Course B. PHYSIOLOGY AND HYGIENE. This course includes a study of the structure and functions of the human body; the hygiene of hair, teeth, skin, nose, throat, lungs, ear, eye; digestion and the nervous system; rest, recreation, sleep, work. HATHORN AND SCHWEICKHARD.

Course C. NATURE STUDY. This course is designed to interest girls in the natural environment of rural life. Trees, rivers, clouds, flowers, bees, birds, and many other interesting things of the country are studied. Nature literature and its connection with nature study are a part of the work. VAN WINKLE.

Course D. HOME ACCOUNTS. The course in home accounts is given to prepare a girl to keep accurate records of the cost of conducting her home. As in the boys' course, the ledger account form is used as a basis for the work. VAN WINKLE.

Course E. HOUSE PLANNING AND DECORATION. This course includes the history of the house; the location, structure, plans for country dwellings; consideration of the problem of heat, light, water-supply; treatment of walls, floors; selection of furnishings; study of light and color. HATHORN.

Course F. HOME NURSING. This course includes a study of the more common forms of illness, the proper care of the sick, and the use of simple remedies. POTTER.

Course G. BACTERIOLOGY. The course includes a study of molds, yeasts, and bacteria, and the conditions under which they grow and thrive. The work is closely connected with the preservation of foods and the care of the sick. POTTER.

Course H. HOUSEHOLD PHYSICS. This course is designed to give girls an understanding of certain physical principles and phenomena that are directly connected with their work as home managers. This includes the simple principles of liquids and solids, the nature of color, light, and sound, and a brief consideration of lighting and heating systems for farm houses. WILDER.

Course I. SANITATION. Sanitation has to do with the study of the different germ diseases such as tuberculosis, colds, pneumonia, typhoid fever, diphtheria, and their prevention. Since many of the disease germs that attack the human body come from the body of those who already have the disease, it is necessary that the student have some knowledge of the ways to guard against infection. The public side of the question is also discussed. WILDER.

Course J. HOME MANAGEMENT. This course includes a thoro study of the most suitable things for the house, the care of kitchen utensils and furnishings of all kinds; the serving of meals and the best arrangement for carrying on the work of the home. It is a combination and continuation of the work of the previous years. POTTER.

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